POULTRY HOUSE

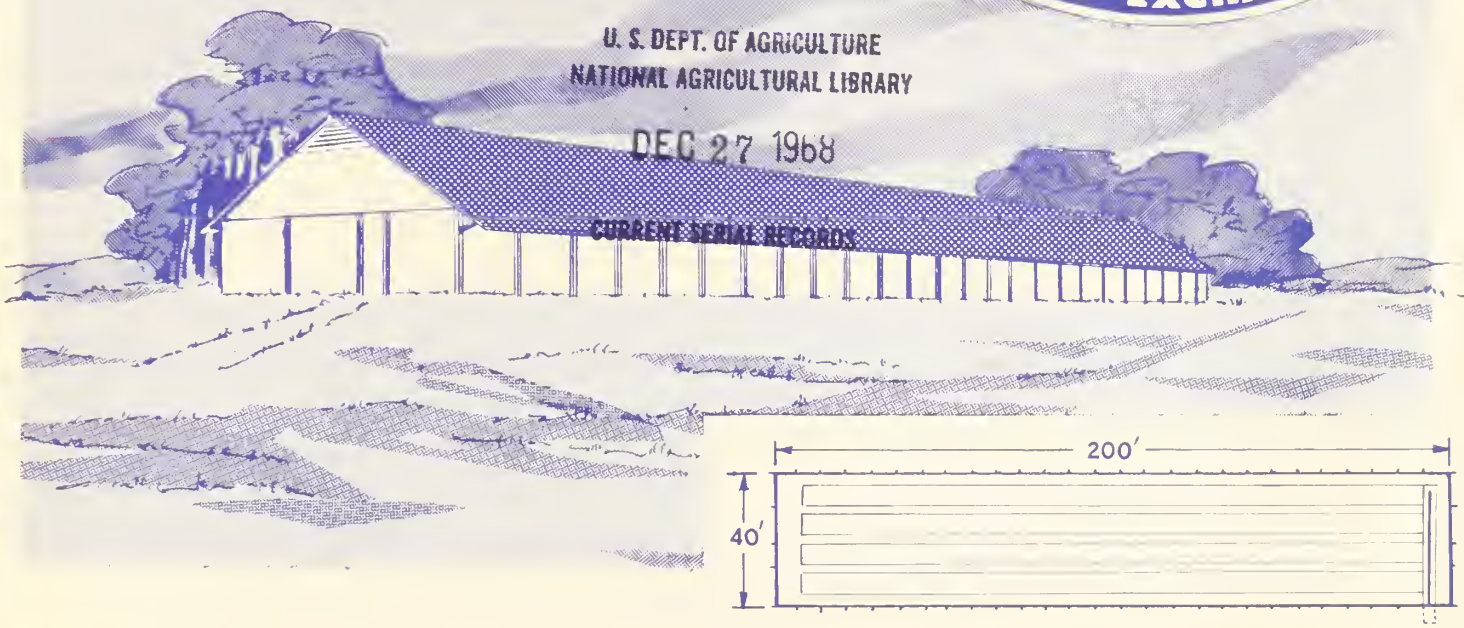
post and panel construction

COOPERATIVE FARM BUILDING

Plan No. 6001

(3 SHEETS)

PLAN EXCHANGE



This plan, developed at the University of Connecticut, had sufficient versatility to justify nationwide distribution.

The poultry industry in southern New England is primarily concerned with the production of market eggs. Specifically, the industry is concerned with the production of brown eggs which command a premium price in the Boston market area. These eggs are produced by several breeds of chickens, collectively referred to as "heavy birds" because the individual heavy bird will usually outweigh the more widely known Leghorn by 1 to 1½ pounds. Research has indicated that heavy birds do not produce at maximum efficiency in a cage-type laying house. This factor, coupled with the premium on brown eggs, has tended to slow up the adoption of cages in the Boston market area. Thus, an effective housing program must contain provisions for both floor and cage management systems. This program may be best accomplished through the development of a structure that lends itself equally well to both systems.

In a structure that depends on longitudinal installation of mechanical equipment, determining the optimum width required to fully utilize this equipment is extremely important. This determination can be particularly difficult if the structure is to be designed to fit either cage or floor management systems.

Research findings indicate that 40 feet is an optimum width for the structure. Length of the poultry house can vary according to the maximum capacity of the installed equipment.

Clear-span construction is recognized as providing the most versatile type of enclosure for an agricultural management system. In addition to permitting the unrestricted use of equipment within the building, clear-span construction also permits the use of different management systems and the changing of one system for another. A cost analysis disclosed that for the 40-foot width, clear-span construction with wood trusses spaced 4 feet on centers reduced costs below those of conventional roof-framing methods.

A minimum sidewall height of 8 feet was selected both to permit operation of large power equipment in cleaning the floor and to provide overhead clearance for certain types of cages.

The 8-foot height also allowed use of conventionally sized plywood sheets on both interior and exterior walls.

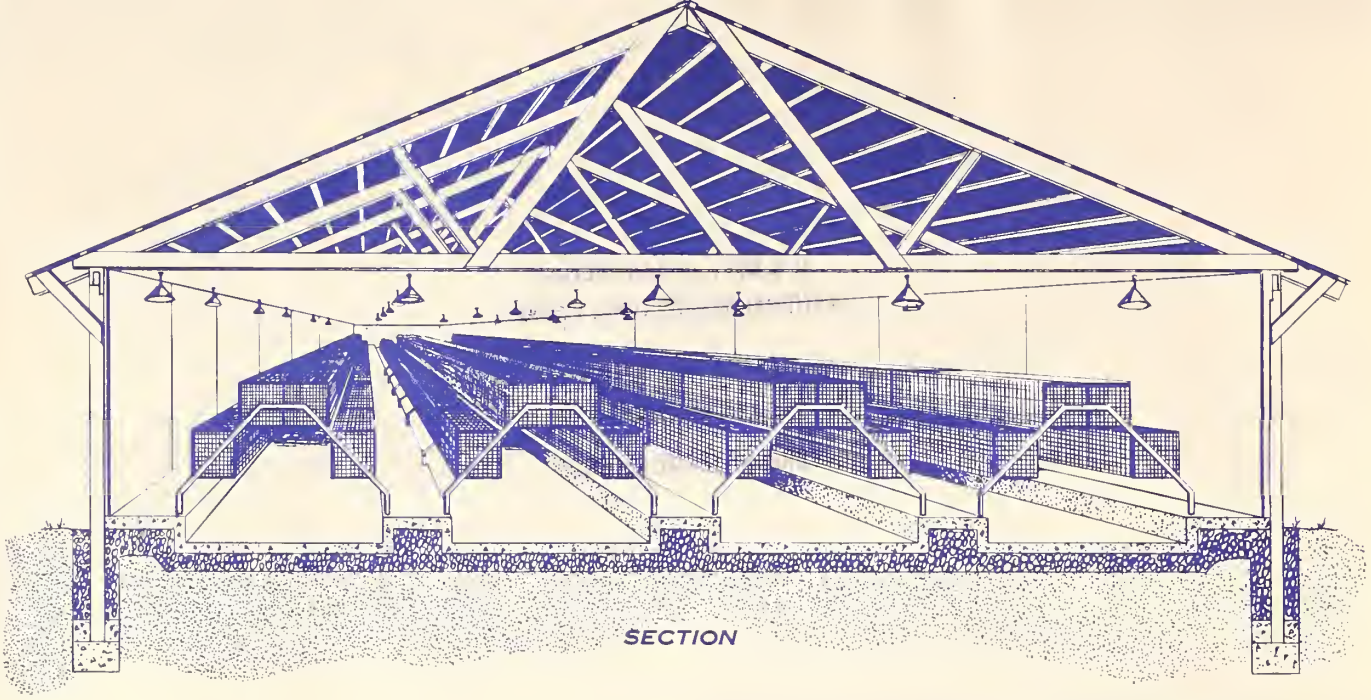
Two-story construction has been traditionally lower in cost per square foot than single-story construction

WASHINGTON, D.C.

Issued November 1968

UNITED STATES DEPARTMENT OF AGRICULTURE Miscellaneous Publication No. 1105

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 – Price 5 cents



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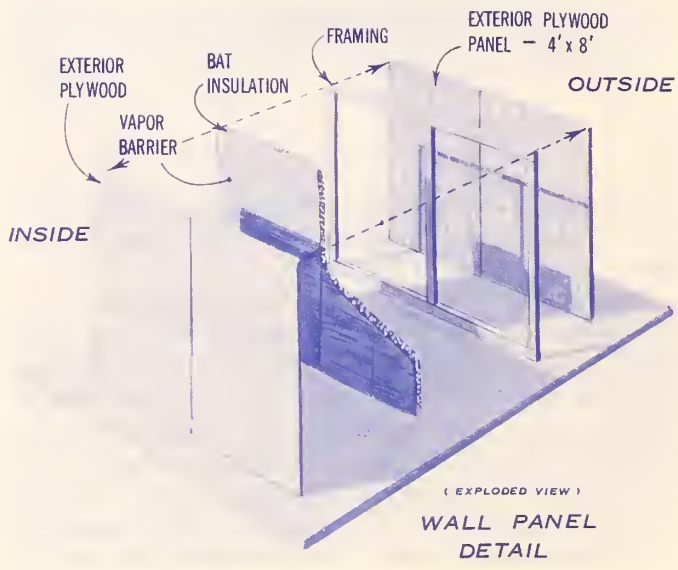

WALL PANEL DETAIL

because it enables the builder to spread the relatively expensive roofing and foundation costs over twice as much floor area. There is little doubt that the materials-handling problem is simpler with a single-story unit; however, initial investment is usually a major factor in deciding on the number of stories in the structure. To minimize the effects of foundation and roof costs, a post-supported structure with a clear-span, metal-covered roof was developed. Pressure-treated posts measuring 6 by 6 by 12 feet are located at 8-foot intervals along the sides of the poultry house and support a fabricated wooden beam that in turn provides a base for truss support. When compared with a conventional foundation, each of these posts replaces approximately 1 cubic yard of concrete with a resultant saving of 10 percent in total building costs.

Total installed costs for the roof system shown in the plan is approximately the same as total installation costs for the second-floor support and flooring in a two-story house. Because of these two factors alone, a single-story house can be constructed for the same cost per square foot as a two-story house, and improved materials-handling features are realized.

The pressure-treated post foundation and roof-support system also provided an opportunity for the planners to develop a curtain wall panel that lends itself to prefabrication either on the site or at a factory. The basic panel developed is an 8- by 8-foot unit.

Complete working drawings may be obtained from the extension agricultural engineer at your State university. There may be a small charge to cover the cost of printing.

If you do not know the location of your State university, send your request to Agricultural Engineer, Federal Extension Service, U.S. Department of Agriculture, Washington, D.C. 20250. He will forward your request to the correct university.

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